SL-II MC-886/1
Time: 05:56 CDT, 19:10:56 GMT
6/12/73

PAO This is Skylab Control at 10 hours 58 minutes Greenwich mean time. And we're preparing to wake the crew up over Hawaii, where we'll be acquiring in about 1 minute. An active day of experiments are scheduled. We have an early EREP pass, number 9. During this EREP pass, the sensors will be turned on over Grand Forks, North Dakota, and 20 minutes later they'll be turned off over the Atlantic Ocean, near Recife, Brazil. They'll be obtaining data over the Great Lakes, the Washington, DC area, and the Atlantic Ocean. We're about 30 seconds away now from acquisition of signal. Our flight director at the present time is Neil Hutchinson and CAP COM, spacecraft communicator, is Hank Hartsfield. In addition to the EREP experiments today, the crew will be performing medical experiments, M092 and M171, as well as a full round of ATM activities - the Apollo telescope mount.

CC Skylab, Houston. Good morning.

SC Good morning. We've been up for a half hour. You still (garble) all night?

CC Paul, it seems like it. We got about 8-1/2 minutes left here at Hawaii.

SC Oh, okay, Hank. You sounded like Bill when you first came on.

SC Hey, Henry.

CC Go ahead.

SC Got a question for the (garble). It doesn't have to be answered now. The next pass or so. For the EREP TV this morning, you know we've been doing everything on channel A; what we're proposing is to operate as we normally do and go VOX on channel A and voice record A. And this morning what we're proposing to do is plug in the connector to the VTR into channel A to voice record that channel instead of B. I just want to verify if that's okay.

CC Okay, I'll get an answer.

CC Skylab, Houston. We're 30 seconds from LOS; Goldstone will be coming up at 11.

SC Roger.

PAO This is Skylab Control. That's all through Hawaii. An alert sounding crew this morning. And we'll be acquiring over Goldstone in about a minute and a half. We'll keep the lines up live for that Goldstone acquisition and subsequent pass over the continental United States. Our change-of-shift briefing will occur 1 hour and 30 minutes early this morning. And the flight teams will handover early, and Flight Director Neil Hutchinson will hold a change-of-shift briefing in the JSC News Center briefing room at 7:15 a.m. central daylight time. We're now less than 1 minute from Goldstone acquisition.

END OF TAPE

SL-II MC-887/1
Time: 06:10 CDT, 19:11:10 GMT
6/12/73

CC Skylab, Houston through Goldstone for 6-1/2 minutes.
PLT Roger.
CC And, Paul, answering your question, we concur. We think putting the voice on the VTR is a good idea.
PLT Okay. We were going to do that anyway. I just wanted to make - confirm that just pushing the channel A doesn't glitch anything.
CC Roger.
PLT (Garble), Houston. You there?
CC Roger. We got about 1 minute left.
PLT Okay, something for the S073 guys to think about. According to our calculations, S073 is not going to phase the program it's in right now before it has to be secured to put the other rods on.
CC Okay; we'll take a look at that.
SC Did you want us to do it? I tell you what - Pete said he ran it out at 01 something. According to our onboard procedures book, that takes 10 revs to complete that, and so that's not going to be done for another - it's only been 10 hours now; it's only two-thirds of the way through, I guess, - something - -
CC Okay; we'll work that. And we're about 10 seconds from LOS. Bermuda will be coming up at 22.
PLT See ya.

END OF TAPE

SL-II MC-888/1
Time: 06:20 CDT, 19:11:20 GMT
6/12/73

CC Skylab, Houston through Bermuda for 9-1/2 minutes.

CC And, Skylab; Houston. An answer to the question on the S073 - we plan to terminate that program early. And it's in the remarks section of message 1923. It talks how to terminate it by cycling the power off.

SC Roger.

SC Thanks, Hank. We just hadn't quite made it all the way through the 22 footer you sent us last night.

CC Roger.

CC That's the only trouble with that. I wish there was some way you could get those early morning remarks, like inhibit momentum dump. Any of that stuff that's in PSA, and we really hussle it to find it in the morning. You know? And I don't know what you can do to work on that, but the flight planners might think about it. I'd sure appreciate the details of the - things that you want during the PSA the night before, if possible. Because it catches us with our pants down every time.

CC Roger. We were just talking about that. We see that as a weakness in the way we're operating. We don't know yet what we can do about it.

SC Well, maybe you can't fix it for our flight, but it's something to think about for the future. Because it (garble). And it's real easy for something there to crack.

CC Roger.

CC Skylab, Houston. If it's convenient, we'd sure like to know the position of the FILTER WHEEL AUTO SWITCH on the S073.

SC It's in the center A and B position.

CC Roger. Center A and B

SC That's right, isn't it?

CC That's affirmative.

CC Skylab, Houston. One minute to LOS; Canary coming up at 33.

END OF TAPE

SL-II MC-889/1
Time: 06:32 CDT, 19:11:32 GMT
6/12/73

CC Skylab, Houston through Canary and Ascension for 15-1/2 minutes.
SC Roger.
CC Skylab, Houston. For info only, we're reconfiguring the rate gyros for daytime OPS.

END OF TAPE

SL-II MC890/1
Time: 06:44 CDT, 19:11:44 GMT
6/12/73

CC Skylab, Houston. Telemetry is showing that experiment 1 and 2 recorders are not running. Could you check that out and perhaps find out, if you can, why they stopped and get them going again?

SC Well, we stopped running them because the experiment stopped. We didn't know you wanted them to keep running.

CC Oh, the experiment stopped?

SC We terminated S073. (Garble) extended i. to (garble) right now.

CC Roger; copy.

SC You want them on now, Hank?

CC Negative, we get a little mix up down here.

CC Skylab, Houston. We're about 1 minute from LOS. We'll be coming up on Carnarvon at 12. I'd like to remind you you have a inhibit momentum dump scheduled at 11:55.

SC Okay, thanks for reminder, Hank.

PAO This is Skylab Control. Now we're now out of range through the Ascension Tracking Station. Be reacquiring over Carnarvon, Australia in 22 minutes. The change-of-shift briefing scheduled for 7:15 will be delayed at least 30 minutes. We'll give you a reschedule time on that as soon as we are complete with our shift handover. On the crew's schedule for today, an active day of experiments, which includes an Earth Resources Experiments pass, EREP pass number 9. That'll occur beginning on revolution 416, continuing on into rev 417. And we expect to get television of the visual tracking system targets. We expect the VTS system with the TV attached. We'll begin providing pictures over Minnesota. However, the crew will be tracking the jet stream cirrus clouds. They'll also be looking at a storm front below the Great Lakes on over across Lake Michigan, perhaps extending as far as Lake Erie. And they'll be tracking Washington, D.C. for about 1 minute, continuing on off the coast into the Atlantic looking for chlorophyll blooms off the east coast. About the time we lose contact with Skylab, they'll be tracking trade wind cumulous buildup and also tracking the intertropical convergent zone weather patterns. Data collected on the EREP 9 pass will be used to support studies of wildlife habitat in North Dakota. Also hydrologic and cartographic information will be obtained in the Great Lakes Region. They'll be gathering information useful in natural resources management in Ohio and will also be collecting data on the state of Maryland's environmental impact on the Chesapeake Bay Region. Also looking at sea surface features in the Atlantic Ocean.

PAO We'll be reacquiring over Carnarvon now in 10-1/2 minutes. At 11 hours 54 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-891/1
Time: 07:11 CDT, 19:12:11 GMT
6/12/73

PAO This is Skylab Control at 12 hours 11 minutes Greenwich mean time. About a minute away from acquiring Skylab over the Carnarvon, Australia, Tracking Station. The space station in its 416th revolution. Coming up on the United States this pass, we'll have an EREP data gathering pass for 27 minutes. We have not rescheduled the change-of-shift press briefing. The briefing is being delayed by a delay in the shift handover, which in turn is occasioned by the inclement weather here in Houston. A number of the flight team members of the on-coming team have not yet made it into the Control Center. Until that shift handover is completed, we obviously will not have a change-of-shift briefing. And we'll keep you informed on the situation there, and get the briefing rescheduled as soon as possible.

CC Good morning, Skylab; Houston. We're AOS over Carnarvon for 9 minutes.

SC (Garble)

CC Skylab, Houston. If somebody gets an opportunity, we would appreciate it if you'd turn SUS 2 PUMP PRIMARY first, in preparation for some troubleshooting. We're going to do a try on that secondary COOLANT LOOP later on today.

CDR Would you repeat the step, please, Crip?

CC Roger. On panel 217, would you turn SUS 2 PUMP PRIMARY. That's if you - -

CDR SUS 2 PUMP TO PRIMARY.

CC Roger; at your convenience.

CDR Okay, Crip, SUS 2 217 to PRIMARY.

CC Roger. Thank you, Pete.

CC Skylab, Houston, We're about 15 seconds from LOS. See you again over Guam at 12:27.

PAO This is Skylab Control. We've had loss of signal now over Australia. Be reacquiring in 4-1/2 minutes from the Guam Tracking Station. And the crew busily involved at the present time preparing for EREP 9 data pass over the United States and down over South America. It's a 27-minute pass, using the EREP sensors. Also on the Flight Plan for today, operation of the S073, gegenschein-zodiacal light experiment; and medical experiments, M092 and M171, will be performed by the commander, Pete Conrad, and pilot, Paul Weitz. Also a full day of Apollo telescope mount operations, and experiment M551, which will be involved with examining the flow of molten metals and the characteristic of various metal alloys in zero gravity. And we have a fairly active day of housekeeping chores, as usual. Also expect to get some television beginning at 7:50 central daylight time. Of the first TV that we'll see will be through the EREP visual tracking system. And the crew will be tracking targets in Minnesota, across the Great Lakes, and over Washington, D.C. Getting a look at Washington, D.C., for about 1 minute. We'll be acquiring now at Guam in 2-1/2 minutes. We'll keep the lines up for that acquisition.

END OF TAPE

SL-II MC892/1
Time: 07:25 CDT 19:12:25 GMT
6/12/73

CC Skylab, Houston. We're AOS over Guam for about 6 minutes.
SC Roger, Houston.
CC Roger. And for your information, we were a little bit late getting the ATM completely closed out from unattended operations. And there are a few items we still need to do, but we'll catch those after your ZLV pass, and it shouldn't - shouldn't be any effect on you.
SC Okay, we'll catch you now if you like.
CC No, that's okay. I think it would be easier just to catch them later. And for your info, the weather looks real good, especially down around the Chesapeake area today. It's mostly clear, which is more than we can say for Houston.
SPT This is the SPT. Which star are we tracking during ZLV? Is that Jupiter?
CC That's affirm. That message may have been a little bit confusing, but that's affirmative. We are locked onto Jupiter.
SC Okay.
CC And for your information, as we did yesterday without a warning, you might expect a CMG saturation during your ZLV maneuver today. So you might want to inhibit that CSE.
SC Okay.
CC Skylab, Houston. We're 1 minute from LOS. We'll have you again over Goldstone for the pass at 15, and we're looking forward to joining Paul on the VTS.
SC Yeah.
PAO This is Skylab Control. We have had loss of signal now through Guam. And we'll just be missing the acquisition - acquisition through Hawaii on this revolution. Acquiring in about 15 minutes 45 seconds at Goldstone for the start of that Earth Resources Experiment pass. At the present time we're receiving a bit of television that was taken yesterday, stored on the onboard recorder and dumped in the early morning hours at Mila, being brought in from Mila to Houston at the present time. This will be part of the TV6 and TV7, which will be replayed this morning.
PAO This bit of video had a replay including a small piece of ATM video, also taped and being shipped in from the Mila Tracking Station.
PAO That appears to be all of the television from Mila. We're checking with the site at this time to see if they have anything further for us before taking the line down.
PAO And Mila confirms that they have no furhter television coming to us at this time. We'll be acquiring over Goldstone in 6-1/2 minutes. At 12 hours 44 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL_II MC893/1
Time: 07:49 CDT, 19:12:49 GMT
6/12/73

PAO Skylab Control, and we have acquisition. The crew on VOX at this time. We'll pick up their conversation.
SC ...5310; think it out.
CC Okay.
SC Otherwise you may not get it. All right. How do you read, Crip?
CC Loud and clear.
SC Two by 2.
CC Good TV.
SC Trying to see some Biblical movie just before the heavens opened up.
SC Right.
SC Still over water?
SC No - well, I don't know. All I can see is clouds.
CC Should be just coming up on Puget Sound.
SC Beautiful Puget Sound.
SC Tell Don Lindsey he was right. You cannot tell the difference between the no filter and the light yellow filter in this VTS, Crip.
CC Okay.
PAO Our EREP officer reports that looking straight down your field of view is about 7 nautical miles.
SC Hey, a FAC zoom?
SC Out, in. Yes, out.
SC How's your resolution down there on the TV, Bob? It sure isn't any too hot on our monitor.
CC It's hard to tell with clouds.
SC Yeah, I know. Now we got a bunch of black specks all over the monitor. Are you getting them also?
CC Affirm.
SC Wonder what they're on?
SC That's interesting.
SC Let me - let's (garble) and get a - -
SC Well, they're obviously not on the lens because we don't have the lens on, and those spots were on there the other day.
SC Well, but there's glass in between there.
SC Yes, it's the color wheel.
SC No, I'm talking about that whole (garble).
SC Yes, but that's not what those spots are on.
SC How do you know what the spots are on?
SC Cause the spots were there the other day when we were operating out the window with the TV lens. Okay.?

SC Something internal to the system.
SC Are you getting those spots on the indoor shots also, Houston?
CC I'll check on that. I haven't seen them before.
SC Some on the - out the window that we did for you.
SC Five seconds the EREP systems crunch.
SC MARK. I need an AUTO CAL on my Mark.
SC Good. 4, 3, 2, 1 -
SC MARK it. 94 MARK, MODE MANUAL.
SC Up, but it's not very good, whatever it is on.
CC Looks like a lake or river going by.
SC Yeah.
SC It's pretty hazy, Bob, and we can't see much. Low sun angle, a lot of haze. It's pretty far out. Let's just track this nadir once and see how it looks.
CC It looks pretty fair.
SC You want me to try to wipe those spots off from that?
SC Let's not do it now. I'll check it after the pass.
SC There's no way you're going to get those spots off.
SC Well, how do you know? It could be on the glass right here on the view port.
SC It's not. I tell you it was on the outer window too the other day. I remember playing with it to look at the ice crystals.
SC Then why don't they show up on the indoor ones?
SC Because I think they're just getting on the indoor ones.
CC They're not bothering us.
SC They're bothering me.
SC He couldn't get them off. The color wheel - -
SC It's 10 degrees forward there. Hey, there's a lousy picture on the monitor. How's yours?
CC It's kind of faded. Looks like not much light.
SC You're right; there's no color.
SC Okay, that's (garble) right now.
CC Smooth tracking.
SC That's all IMC.
SC Standing by for a 191 READY light in 5 seconds.

SL-II MC893/3
Time: 07:49 CDT, 19:12:49 GMT
6/12/73

SC I have it at 49. 92 is going to MODE READY on my mark.
SC MARK. In recorder, S190 to MODE AUTO. At 0392, going to MODE CHECK. At 14, CHECK 14. (Garble) the altimeter is on. (garble) 32, S190 intervalometer 8. Ooh, there's a town. Gee, this town looks (garble) B30 of garble).
SC There's an airport. You see it?
SC Oh, yeah, I can see it on the monitor.
SC Crip.
CC TV's cutting out on us.
CC We lost on the handover.
SC You there, Houston?
CC Affirm.
SC Okay.
CC Be at your airfield briefly.
SC Okay, I didn't know I got it or not. And we're going over some overcast cloud level - layer now. Jet stream cirrus clouds, I can't really tell. That could very well be what we have here. I got a (garble) nothing look at.
SC You do, and it's going to break up in a minute over (garble)
SC That's good. Lake Michigan.
SC Lake Michigan is clear.
SC Look at her.
SC Well, let me track Lake Michigan for a few seconds, Crip. I've (garble) those (garble) quickly.
SC Altimeter to STANDBY.
SC Say again.
CC Clouds look good from here.
SC RAD ON; SCAT's on.
SC Hey, we're doing a good job on the clouds, huh?
CC Affirm.
CC (Garble) up.
SC Oh, we'll find a way.
SC MARK MEDIUM on S190.
SC Okay, now we want funnel clouds.
SC Whoever is calling these clouds is doing a pretty good job of it, Houston.
CC Roger.
SC MODE READY. Altimeter went to MODE 5.
SC Oh, that's (garble) MODE RRADY.
SC There's some pollution in the lower right corner of your screen there, coming into a lake.
SC (garble)
SC Yeah.
SC This must be - this must be Cleveland.
SC That was the west end of Lake Erie.

END OF TAPE

SL-II MC894/1
Time: 08:00 CDT, 19:13:00 GMT
6-12-73

SC (garble)
PLT How's the west bend of Lake Erie?
SPT There's clouds right at the west end. Detroit and Cleveland are - look both clear, and the center of the lake is loud and clear.
CDR SCAT to STANDBY. RAD to STANDBY.
SC RAD's OFF; SCAT's ON.
CDR Awful hazy in the Washingto area, Houston.
CC Too early in the morning.
SC A shutter speed flow on 190, 1 minute.
SPT SCAT to STANDBY. RAD to STANDBY.
PLT You can't make out enough detail.
SPT 92 to CHECK. 3A is ON (noise)
SPT Be out over the Atlantic now.
SPT Yeah.
SPT 190 inner velometer to 18. (Garble) for an S190 READY out at 04:36.
CDR Ah-h-h, it's nice and clear out there as the sun comes up.
PLT I couldn't find Washington; it was right under the edge of a cloud layer.
SPT Roger. And it was supposed to have been clear.
PLT Yeah.
PLT It's sure frustrating. I can see the river and that but I couldn't quite find Washington.
SPT I think it was a high cirrus form stuff combined or (garble), Crip. I just couldn't make out features on the ground up the river.
CC Roger.
PLT Yeah, it was haze. I took some wide angle shots of the whole area but I couldn't (garble) very clearly.
CC For us to know steady you can hold the thing.
SC Oh, yeah. It's easy to track.
PLT Now I'll track this little cloud coming up here. Why wait? Yeah, we got to wait.
SC It's beautiful.
CC I think you can do that good in the trainer.
SC It's just about the same, as a matter of fact.
CDR Altimeter to STANDBY, MODE 2.
CDR Somebody ought to look at the S190 calculations they get. A READY light went out a long time ago.
CC Roger.
SC Altimeter is ON.

SC Ah-h-h.
PLT You and me.
CDR This is my second coffee.
CC You know you guys could do EREP in your sleep there.
SC Oh, yeah.
SC I;ll tell you, that's the only way to do it though - is to work this console every day.
CC Right.
SC Your pads are good though ; I got plenty of time.
CC The planning guys will like that.
PLT Okay, you're the trained one. (Garble) coming up here now.
CDR Tell you what tickles me is to see all this gear (garble). Now that we got power in here and some heat in here, to see all this gear come on just like it's supposed to.
PLT Yes, everything is working - -
CDR Yes, it's really working good.
CDR The stations are all good now.
CC Roger.
CDR At least from our point of view up here, it looks like you're going to have good data on that tape.
CDR Probably we wouldn't have had a seven rod extension there; so 73 on the minus-Z SAL (garble) see, and we got that. Even with two rods you can see it out the wardroom window.
CC Ah, so.
PLT We'll take some suitable pictures of it for the PI.
CDR And speaking of that, the seven rod extension went very easy. You'd be interested in noting that the wire bundle had memory in it going out. So I got about (garble) for the next half of the rods.
CC Roger.
SC Stand by for 839.
PLT Not so many cumuli in the trade winds today.
CC Roger. We've lost the TV now.
PLT Yeah.
CDR Stand by MODE 3, and bang her back ON at 54 for 93.
SC (Garble) coming up in nine minutes and zero seconds.
SC 911 - S190 MODE 1 - -
PLT MARK, 9 minutes.
CC Okay, 1 minute to LOS; Ascension at 13:08.

SL-II MC-894/3
Time: 08:00 CDT 19:13:00 GMT
6/12/73

SC Okay.
SC MARK S190 MODE AUTO.
PLT Okay stand by for another MARK in 10 minutes, MARK in 10 minutes.

END OF TAPE

SL-II MC-895/1
Time: 08:10 CDT, 19:13:10 GMT
6/12/73

PAO This is Skylab Control. We're 6 minutes 45 seconds now from reacquiring through the Ascension Island Tracking Station. And on that EREP pass, we got a look at the continental United States through the viewfinder tracking system, the VTS. A number of the targets were rather difficult to discern. Apparently, a combination of the relatively low light level getting into the TV camera. The field-of-view at maximum zoom, using the 10 to 1 zoom, through the viewfinder tracking system, is 7 nautical miles through the TV. I understand this is reduced by half that, so that the field-of-view is 3-1/2 nautical miles at maximum zoom through the TV looking straight down. And at minimum zoom, the field-of-view through the television would be 35 nautical miles. This EREP pass was on track 61, 61. And among the objectives, as the sensors were turned on over Grand Forks, North Dakota, data was being collected to support studies of wildlife habitat in North Dakota. In the Great Lakes region, principal investigators were looking at hydrologic and cardiagraphic information. Also, they were gathering natural resources management information over Ohio, and in Maryland, data was being gathered to support environmental studies on Chesapeake Bay and sea-surface features out over the Atlantic. Paul Weitz reported that he was not able to discern Washington, D.C. through the haze. The last weather report we had prior to this EREP pass was that Washington was clear. However, by the time the crew got a look at it through the VTS, apparently it had been obscured, and they were not able to make out the city itself, although Weitz reported he could see the Potomic River leading up to Washington. As this EREP pass continues out over the Atlantic, the crew will be gathering information on tradewind cumulus cloud buildup, and also on weather over the intertropical convergence zone. We're now 3 minutes 50 seconds from reacquiring at Ascension. At 13 hours 15 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC896/1
Time: 08:15 CDT, 19:13:15 GET
6/12/73

PAO This is Skylab Control, 2 minutes 50 seconds from acquiring at Ascension. And we're receiving a video tape replay at this time. This is a close up view that we're receiving which will show the attachment of the leg bands for the M092 experiment, lower body negative pressure. We'll see, I believe, Joe Kerwin, science pilot, attaching the leg bands to Paul Weitz's legs, prior to closing up the lower body negative pressure device, and partially evacuating it to produce the negative pressure across the crewman's lower body.

PAO The total duration of this television replay will be about 10 minutes. It includes TV 6 and TV 7, which is operations with the lower body negative pressure experiment and also the bicycle ergometer. This replay has the sequences put back in the order in which they were recorded on board.

CC Skylab, Houston. AOS Ascension 6 minutes.

CDR Roger, Houston.

CDR Mark 93A STANDBY. Mark 94 MODE MANUAL,

CDR Forty-five seconds until the maneuver.

CDR 91 READY is on. Ten seconds until maneuver. Five. MARK it. (Garble) systems STOP.

CDR Okay, tape recorder alfa 5 is reading 70 - is reading 67 percent. 6 7 percent. Six is reading zero. Bravo 2 is reading 52. Bravo 3 is reading 76. Bravo 6 is reading 55. Charlie 5 - Charlie 5 is reading 83. Charlie 6 is reading 47. Delta 4 is reading 71. And Delta 5 is reading 14.

CC Skylab, Houston. big John and all the EREP people would like to express their appreciation for the fine job you guys have been doing and giving them readouts, and all the EREP passes have been looking real good. We're going to be going LOS here in about 1 minute, and we'll see you again at Carnarvon at 49, I guess. 13:49.

SC Roger, Houston. Do you want to do the condensate malf at that time?

CC That's affirmative.

SC Okay.

SC Friendly tape recorder, (garble)

CC Skylab, if you were calling, that was unreadable.

PAO This is Skylab Control. That completes our replay of the TV 6 and TV 7 transmissions. And we're also LOS. We have a loss of signal through Ascension. We'll be acquiring at Carnarvon, Australia in about 23 minutes. At 13 hours 26 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-1 MC897/1
Time: 08 CDT, 19:13 GMT
6/12/73

PAO This is Skylab Control, at 13 hours 48 minutes. And we're about to regain radio contact with Skylab through the Carnarvon, Australia, tracking station. About 1 minute from now we'll be acquiring signal. The space station now in it's 417 revolution of Earth. And we'll be in acquisition through Carnarvon for about 10 minutes.

CC Skylab, Houston. We're AOS over Carnarvon for about the next 11 minutes.

SC Houston.

SC (garble)

CDR Houston, CDR.

CC Go, CDR.

CDR You know how I hate to be idle, you got a (garble) here. After rocketing around we're in a 2 hour hold for for LONP venting. So I'm going to do M551 at least up until TV24, and I want to know whether you're going to be finished with the VTR so that I can go get M551-1 out of the way.

CC Checking.

SPT And Houston, the SPT is ready for condensate malf if you are.

CC Roger, Joe. You can go ahead and press with your first step there.

SPT Okay, I'll go to panel 216, and I'm going to go to PRI.

CC Okay.

SPT And I'm in PRI, standing by.

CDR Captain Video doesn't have those dump numbers right at his fingertips.

CC We've got them right there, and the VTR is your's now.

CDR Oh, I love you.

CDR The other thing for the FAO is, if we want to do M553 on our own time, is that permissible?

CC Checking and - Joe, we're going to have to cycle back to OFF and then back to PRIMARY, please.

SPT Okay.

SPT You're in OFF, give me the word.

CC Okay, now to PRI, Joe.

SPT Now you're in PRI.

CDR Crip, while you're working at it, you got a minute?

CC Yes, go ahead.

SC I'll tell you what the discussion has been here, and how about having Flight work up a couple of sentences for you to tell us basically what happens after

fuel cell shutdown on 165. I think that we are willing to try between now and then when we get the (garble) with power, to knock out on our own as many things as you guys care to add to that shopping list. We'll give them a go as best we can. And I'k like a few words about the general flight planning after day 165 up to day 26 where (garble).

CC Roger. What are you looking for on that message about after fuel cell shutdown? Procedural kind of things we're going to be doing, or what kind of power conservation we're going to be going after or what?

CDR Yes, just a couple of words on that - if we - in other words, is EREP history after that? So forth and so on, you know, few general things like that.

CC Okay. Okay, and Joe if you would go to OFF and then to SECONDARY for us please.

SPT Okay, I'm in OFF. Standing by.

CC Now go to SECONDARY, please.

SC You ready for SECONDARY now?

CC Affirmative.

SPT Okay, you there?

CC Joe, if you would go to OFF for us for a little whi'e again, please.

SPT You are in OFF.

CC And back to SECONDARY, please.

SPT You're in SEC.

CC Okay, Joe, if you could go on down to panel 393 and we can proceed with the disconnecting the condensate hose. Be advised, we may lose our condensate - condensate tank DELTA-P at that point, so you could get a C&W.

SPT Okay.

SPT Okay, Crip, the condensate hose is disconnected at 393.

CC Okay, thank you.

CC And Pete, after you do 551 it's okay to go ahead and do 553. No sweat on it. Corollary guy just wants to make sure you don't forget his S073 down there though.

PLT We're standing around counting the minutes until we can start S073.

CC You guys sound like you got time on your hands.

PLT No, we just work fast.

CDR At 73's off and running on time, we have a 1 and 2 recorders on.

CC Okaydoke.

PLT Besides, I want to see if (garble) really works.

CC You know it really works.

CC Ted Mitchell says it does.
CDR Okay, we want to do both of those, 552 and 552. We'll do those on our own time if it's all right with you guys.
CC Fine and dandy.
CC Okay, Joe. We'd like you to go back to panel 216 now and turn the CONDENSATE SYSTEMS HEATER switch to OFF. But before you do that, we'd like to know what's the status light reading on it.
SPT Okay.
SPT Well the SEC status light is ON and the temperature is 75. It's come up.
CC Okay, very good. It looks like it's working, we just probably have a telemetry problem here.
SPT Okay. Want it OFF now.
CC That's affirmative.
SPT It's OFF.
CC Joe, if you don't mind, we're going to be coming up on Guam in about oh, 14:02 and what we'd like to do is leave that condensate hose disconnected until that point. Let us give you a call to check it.
SPT You bet.
CC Okay, fine.
CC And we are 1 minute from LOS; Guam at 14:02.

END OF TAPE

SL-II MC-898/1
Time: 0900 CDT, 19:14:00 GMT
6/12/73

PAO This is Skylab Control at 14 hours Greenwich mean time. About 1 minute and 50 seconds from reacquiring at Guam. And we'll have a briefing on the Earth resources experiment package, this morning in the JSC news center briefing room. That briefing is scheduled to get underway shortly. Also, we are planning to have a change of shift briefing. And we do not have an estimated time on that change of shift briefing. However, it does appear likely that the change of shift briefing and the EREP briefing will be melded together at some point with flight director Neil Hutchinson, coming into the News Center briefing room to brief on the shift that he has just left as soon as he is able to leave the control center and will also during the time that the EREP briefing is taking place, take down the release line, record any air-to-ground conversation with the crew for playback following that EREP briefing. We are now about 1/2 minute away from reacquiring at Guam and we will standby for acquisition at Guam, be prepared to switch to the briefing on EREP as soon as that is ready to get underway in building 1.

CC Skylab, Houston. We're AOS over Guam now for about 10 minutes.

SPT Hello, Houston.

CC And Joe, at your convenience you got a GO to go back to panel 393 and reconnect the condensate hose to the dump 4. It looks like we got a slow leak through that qd.

SPT Okay, that should work.

SPT Say, Crip, should we Delta-TR on 216 has dropped to about 3.7 and it's up to 4.0 again.

CC Up to 3.7 and back to 4.0.

SPT Houston, SPT.

CC Go ahead, SPT.

SPT Did you ever get any word about the radio noise (garble) for a couple of days?

CC Joe, I'm informed that on your ATM schedule pad that they did schedule that for today.

SPT Oh, you're right.

CC Rog. They go (garble)

SPT Okay.

CC Joe, I got a small update for your solar activities pad. Would you like to get that now, or get it later or when you're on the console?

SPT I'm getting ready to go on the console right now, so let's have it.

CC Okay. Active region 27 produced a subflare at 0207 Zulu, and that region apparently is growing rapidly. We had a very unusual bright surge occur on the left limb at 01/1, at 0750 Zulu.

SPT Okay, copy. Man, that's up near the pole.
CC That's what it looks like to me, I don't know why they call that west limb.
SPT Well, we've got nothing out there in the way of an active region either.
CC Let me check that (garble) on that.
SPT Okay.
CC SPT, Houston. Those coordinates I gave you were correct and apparently it's unrelated to anything that we're seeing right now on the disk.
SPT That's why it's so unusual. Incidentally, I put L channel the other night that I thought I had observed a subflare in active region 27. That was night before last. I wonder if we had any confirmation or denial on that.
CC Okay, I will get them to check that out for you. We're about 1 minute from LOS Goldstone at 14:28.
PAO This is Skylab Control, at 14 hours 14 minutes Greenwich mean time. Now we have loss of signal through Guam and we will be reacquir'ng at Goldstone, California, in about 13 minutes. The EREP briefing is ready to begin at this time in building 1 and we will switch to that briefing at this point.

END OF TAPE

SL-II MC899/1
Time: 10:09 CDT, 19:15:09 GMT
6/12/73

PAO This is Skylab Control, at 15 hours 9 minutes Greenwich mean time. Skylab at this time is over the South Atlantic passing beneath the Cape Hope African Continent and about 55 minutes away from reacquiring at Goldstone, California. During the EREP briefing we accumulated about 9-1/2 minutes of tape conversation which we'll replay for you. We have cancelled the change of shift briefing. During the previous shift the major activity was flight planning for the next two days and also trouble shooting the S054 experiment door, which earlier in the mission appeared to have jammed. During the EVA the crew removed a pin and opened the door so that the experiment can be operated. During the trouble shooting tests that were run during the night, it was determined that the gear drive mechanism which activates the door has in fact jammed. It was hoped that the logic connected with this door opening could be cleared so that the crew could get the proper indication of the experiment's readiness to operate. However, this was not possible once it was determined conclusively that the gear drive mechanism was jammed. The major impact on the experiment is that the door cannot be opened and closed. It is in the fixed open position and the primary purpose for the door is to protect the experiment from contamination. However, the experiment is continuing to operate satisfactorily with the door in the open position. Two additional EREP passes were planned in a preliminary fashion during the previous shift. Day 164 and day 165 EREP passes, and these are the final two EPEP data gathering passes planned for Skylab II. Also, the previous shift developed some of the procedures that were to be used on the present shift in trouble shooting the secondary coolant loop, the airlock module secondary coolant loop. During the EREP briefing while the crew was in acquisition with Mission Control through the United States, a trouble shooting procedure was initiated with the secondary coolant loop. As had been planned, the secondary coolant loop was shut down yesterday after the temperature control valve failed to modulate as desired and the loop began to cool off rapidly. The loop was allowed to warm up for about 24 hours. And this morning over the Continental United States a command was sent from the ground that activated both pumps, providing a flow rate of about 400 pounds per hour, or a little more. This is about twice the normal amount the loop would see, and as a procedure similar to that that was used successfully with the primary loop to free the sticky temperature control valve. The procedure also appeared to work for the secondary loop and the data that we got over the Continental U. S. pass

and also over the Vanguard tracking ship, it appeared that the temperature control valve was controlling in the desired 47 degree Fahrenheit range. We'll continue to look at that to assure that the valve is modulating properly and controling the temperature within that range. But the preliminary indication is the procedure has freed the valve and the secondary may be operating normally. We'll replay now the accumulated tape, about 9 minutes 30 seconds of communications with the crew over the Continental United States and the Vanguard tracking ship.

CC Skylab, Houston. We're AOS over Goldstone for 17 minutes, 17 minutes.

SC Roger.

CC And be advised, we're getting ready to turn the secondary coolant loop on once more and you'll get a set cool of flow light if that's ENABLE.

SC Okay. (static)

SPT (garble) white light coronagraph (garble)

CC Joe, I'm sorry you were breaking up, say again please.

SPT Are you ready for a white light coronagraph TV downlink now or you want to wait?

CC We need to wait for about 6 minutes on that apparently, Joe.

SPT Okay. Meanwhile the CDR is setting up for VTR.

SPT On M551 if you want that.

CC Okay, I - problem I guess is on the ground station to pick it up. We're waiting - we've got Mila configured.

SPT Okay.

SC Hey, Houston.

CC Go.

SC Fiddling with the focus ring on the TV optical adaptor on the VTS, I couldn't see any difference in my monitor. I guess if we run that again I would like to - cue from you - go ahead and run that focus ring from 1 extreme to the other to see if you guys can see any difference in the pictrue on the ground.

CC Okay, we'll take that under adivsement in case we get to run it again.

SC All right.

CC And Skylab, we're being held up slightly on turning that secondary coolant loop on because of a data problem.

SC Roger.

SC Are we going back to bed?

SL-II MC899/3
Time: 10:09 CDT, 19:15:09 GMT
6/12/73

SC We're supposed to but the skipper won't let us.
CC Skylab, Houston. You may be aware we have turned on your secondary coolant loop now, and we're standing by for the TV downlink which I believe you got white light coronagraph scheduled for now.
SC Okay, it'll be a couple of minutes because I went ahead and started JOP 6 (garble).
CC Okay, that's okay. We've got Pete on right now with 512.
SPT Houston, Pete says he's got about 4 or 5 minutes set up to do here. You want it live, or do you want him to hold?
CC Stand by 1.
CC Roger, Joe. As soon as you get a chance we'd like to get the white light corona graph live or all the TV.
SPT You were cut out. Please repeat.
CC Roger, Joe. We're standing by for your ATM TV downlink. We'd like it live.
SPT Okay.
CC Okay, we've got 52 now.
SPT Okay, that's in Roll minus 5 - minus 10,80 . I'll be rolling the 5400 in a minute.
CC Skylab, Houston. If anybody has an opportunity we'd appreciate it if they could turn off SUS 2 on panel 217.
SPT In a minute, Houston.
CC Okay, no rush on it.
SPT It's off, Houston.
CC Joe, I might have been confusing you a while ago on that TV. We'd like you to go ahead and cycle through it, like you normally do.
SPT Everybody wants to see, huh.
SPT I want to give you the coronagraph on the right roll.
CC Okay.
CC Skylab Houston. Right now the secondary coolant loop is looking good. We'd like to ensure that the secondary coolant temp low caution and warning is enabled and we're going to let you go ahead have it and leave it on after we go LOS. And if you get that caution and warning, we'll want you to turn the secondary coolant loop off.
SPT Copy.
CC It's really wild when you've got it in integration.
SPT (garble) sound is sure a big help with 2.

SL-II MC-899/4
Time: 10:09 CDT 19:15:09 GMT
6/12/73

SPT And for the whole thing, 52 peoples information the pointing numbers at which that display was optimized was right 25 and up 5.
CC Right 2 (garble) 5 and up 5. Thank you.
SPT Okay.
SPT Actually on fine scale, that looks like right 32 or so.
CC Okay.
SPT And active region 27 is the brightest thing on the Sun in H-Alpha this morning. And it looks much more complex and has several spots visible on the (garble) to be exact. On the XUV monitor white light display active region 31 looks pretty diffused, not nearly as bright, not as interesting. And 37 is coming around the horn with 2 big spots, a couple of dark filaments, and some bright red compact plage and it looks good too.
CC Roger and we've got a sight down here to concur with your discription. Thank you very much for a very good discription.
SPT Okay.
SPT And Houston, Pete says he is going to put his show on the VTR now if that's okay.
CC Rog. And we did command that VTR off from here. So you or Pete is going renable it or somebody up there.
SPT Okay.
CC Skylab, we are 1 minute from LOS. See you again over the Vanguard at 14:5[illegible], 53
SPT Rog.
CC Skylab Houston. We're AOS over Vanguard for 6 minutes.
PLT Roger.
CC SPT Houston. There is a possibility that we might need a couple of TACS nib for this upcoming dump operation, and we'd like you to turn the TACS back to enable for this one dump only.
SPT Okay.
CC And Skylab for your information, we have turned off pump Charlie on the secondary loop. We have been hitting it with both Bravo and Charlie. And it is still looking real good to us.
SPT Very good.
CC Also Skylab, we show that experiment 1 and 2 tape recorders are still operating after the S073. To save us a little bit of dump problems, we would appreciate it if you would secure them until they're required for M092.
SPT Okay Houston.

CC Thank you.
CC Skylab, we're about 30 seconds from LOS. We'll see you again over Goldstone at 16:04, 16:04.
SPT Au revoir.
SPT And Houston, if you read, Pete says he's not getting any reading on the filament chamber pressure meter. Would you look at that or think about it for our next pass.
CC Roger, understand you're not getting a reading on the fliament chamber pressure on 512.
SPT That's right.
SPT It shows zero work chamber pressures.
CC Rog.
PAO This is Skylab Control. That completes our tape replay. It brings us up to date with the conversations with the crew through Vanguard. And we're about 41 minutes from reacquiring at Goldstone. As you heard in that conversation, Pete Conrad requested and received permission to get up to begin experiment M551 early. And he reported that there was no indication of filament chamber pressure. The corollary experiments officer is checking on that report, looking at data to evaluate the situation and see how we stand with respect to that experiment. We did not yet have a report on the status of the experiment. M551 is metals melting and alloy behavior experiment, determining how metals have behaved when melted in zero g, how various alloys behave. And we're also getting television of the activation of that experiment. Pete Conrad was operating the M551 equipment and recording that operation on the video tape recorder as we acquired at Goldstone. As that TV is placed on the tape recorder, it is also dumped when we're in acquisition at a stateside station. Coincidentally, we had lines up to Mila at that time for an ATM television dump, and as we acquired at Mila, the TV that was going on the video tape recorder was also fed back into Houston live and was fed out on the lines at that time. As the crew switched over to begin feeding the ATM video, of course we lost the picture of the M551 activity. Conrad then went back after loss of signal and resumed loading up the video tape recorder with the M551 activity. And we would expect to see the entire television of M551, TV 24 as it was planned. INCO is looking into the possibility of bringing that TV back to Houston, or at least a portion of it during the next stateside acquisition, which is Goldstone - Texas on this revolution. However, it appears at this time that the amount of TV that we could get back would be relatively small, on the order of 10 minutes. We'd expect about 20 minutes of television to have been accumulated at that time. So in

event, we will not have the entire load of video tape back during this series of stateside passes. And we would expect to have to bring the remainder of it back early tomorrow morning, when we again have Goldstone - Texas - Mila acquisition. We'd like to repeat also the changes in the crew sleep and awake times as we begin changing the crew work day, in preparation for the entry activities. On day 165, the crew will work a 14 hour day and will go to bed 2 hours early at 01:00 Greenwich mean time. They'll sleep for 7 hours and on day 166 they will wake up 3 hours early, at 08:00 Greenwich mean time. On day 166, they will have a 15 hour work day, and they will go to sleep an additional hour early at 23:00 Greenwich mean time, so that their sleep time will then have moved a total of 4 hours early and they will wake up the following morning on day 167 at 07:00 Greenwich mean time, which will mean that their wake up time has moved a total of 4 hours early, beginning with day 167. The work day will then run from 2:00 a.m. until 6:00 p.m. We're now 35 minutes 40 seconds away from reacquiring at Goldstone. Fifteen hours and 29 minutes Greenwich time, this is Skylab Control.

END OF TAPE

SL II MC900/1
Time: 11:02 CDT, 19:16:02 GET
6/12/73

PAO This is Skylab Control at 16 hours and 3 minutes. We're standing by to recieve contact through Goldstone, California. The spacecraft is now on the 419 revolution, rather the 418 coming up on the 419. And we also got a report from INCO, the instrumentation and communications officer, that there is no plan at this point to bring back television of M551. The crew was putting that activity on the tape recorder. On the last pass, however it would not be possible to get the entire tape load brought back to the continental US station today. The plan at this point is to bring back the entire load of video tapes and get it transmitted to the ground during the early morning hours and bring it in tomorrow. And we had the call to the crew. We'll stand by for that conversation.

PAO The environmental systems engineer or EGIL has taken a good close look at telemetry data on the secondary coolant loop, and that continues to appear to be functioning normally. The temperture on the secondary loop running right around 47 degrees Fahrenheit.

CC Joe, we need to tweak up the C3 biases a little bit and if you would stay off the DAS for about a minute we would appreciate it.

SPT Okay.

CC Joe, the DAS is yours again?

SPT (Garble)

SPT Houston, SPT.

CC Go ahead, SPT.

SPT I was wondering if you guys have a testament for me of the current solar ambient radial light.

CC We'll check it.

CC SPT on your solar activity pad, they put down a number of 130, and we believe that's still good.

SPT Okay.

CC Skylab, Houston. We're 1 minute from LOS. We'll see you again over the Vanguard at 16:29 and we will be doing a data recorder dump over Vanguard.

PLT Roger.

END OF TAPE

SL-II MC-901/1
Time: 1119 CDT, 19:16:19 GMT
6-12-73

PAO This is Skylab Control. We'll acquire again through the tracking ship Vanguard in 10 minutes. And there will be a long silent period back around to - the Goldstone, Tex - or Goldstone, California, station, which will be our last stateside acquisition for today. Again the secondary coolant loop appears now to be functioning normally along with the primary loop. And so that we have two good loops, now we are in the nominal or normal configuration on both loops, both of them controlling temperature right around 47 degrees. At 16 hours, 20 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-902/1
Time: 11:27 CDT 19:16:27 GMT
6/12/73

PAO This is Skylab Control at 16 hours 28 minutes. Skylab now approaching the Vanguard tracking ship off the coast of South America. We're about 1 minute away from resuming contact with the crew through the Vanguard. And according to the flight plan, Commander Pete Conrad and Pilot Paul Weitz at this time should be involved in M092, M171 medical experiments, with Science Pilot Joe Kerwin drawing the ATM experiment duties. And those activities will continue until lunch time for the crew. We gather that they are running somewhat ahead of the timeline, at least Pete Conrad, and Pete advised on the last revolution that he was activating the metals melting experiment, M551 early. Pete also gave us one call that indicated a possible problem with the M551 experiment, and after evaluating his description of the situation, however, the corollary experiments officer reports that he does not feel there is a problem with that experiment and it simply was a matter of waiting until it reached the proper pressure conditions before beginning -

CC Over Vanguard for 10 minutes.

CDR Roger.

PAO And we have a vidio tape replay of this morning's television transmissions coming out now on the release line. This is a replay of TV 6 and 7, which is the M092, M171 activities with Joe Kerwin, Science Pilot, as the observer , and this particular bit of TV, Paul Weitz as the subject in the lower body negative pressure, and on the bicycle ergometer devices. And the biomedical officer reports that telemetry shows Kerwin has just turned on the equipment for the M171, M092 experiments on board.

PAO The current television replay will last a total of about 29 minutes. That will include all of the television received in Houston today. With the TV 6 and 7 activities, lower body negative pressure unit, and the bicycle ergometer coming first, followed by the viewfinder tracking system TV during the EREP pass. And at the present time we're seeing Science Pilot Joe Kerwin attaching the legbands to Paul Weitz's calves. These are the bands that are used to determine leg volume, one a calibrated band, the other a band that is compared with the preflight calibrated band to determine how much, if any, the leg volume has changed.

PAO This is a very quiet pass over Vanguard. There's been virtually no communications with the crew. The biomedical officer reports that they are now into the M171 experiment. That information arrived from telemetry. And in our TV replay, we've just seen Joe Kerwin open the valve

that evacuates or partially evacuates lower body negative pressure in the chamber, placing negative pressure on the subject's lower body. The subject again, in this case, Paul Weitz.

CC Skylab, Houston. We're 1 minute from LOS. We'll hi you again at Goldstone at 17:44, 17:44 and we will be doing a data recorder dump over Goldstone.

CDR Okay, Houston.

PAO Skylab now out of range of the tracking ship Vanguard. And about an hour and 5 minutes away from acquisition at Goldstone, California and that'll be the last Goldstone acquisition for today. The next revolution after that - the only two stations to acquire will be Hawaii and the Vanguard. And in our video tape replay now, we see Paul Weitz on the bicycle ergometer --

END OF TAPE

SL-II MC-903/1
Time: 12:42 CDT 19:17:42 GMT
6/12/73

PAO This is Skylab Control at 17 hours 43 minutes and we're about to acquire for a short pass over the Goldstone, California tracking station It will be about a 3 minute 45 second acquisition. And then down across Vanguard, the only two stations acquiring this revolution. The spacecraft now in it's 419th, coming up on 420th revolution. During this acquisition or over Vanguard, we'll be discussing with the crew further Pete Conrad's earlier remark that he may have a problem with the M551 experiment. Conrad noted that the pressure had not reached the desired level, and asked for recommendations from the ground. After reviewing the situation here and talking with investigators at Marshall Space Flight Center, we've reached the tentative conclusion that it may take longer than anticipated to evacuate that chamber.

CC - Houston, we're AOS over Goldstone for about 3-1/2 minutes.

SC (garble)

CC Roger. And if the CDR's available, we'd like to ask regarding that M512 facility if he ever looked at that filament chamber pressure again.

SPT It was just very slow coming on line, but it did come and he's welding right now.

CC Understand it's welding now.

SPT That's affirm. He had a outgas for 2 hours he said.

CC Okay.

CC And Joe, we copy that you're in one frame per minute on H-Alpha (garble)

SPT Okay.

PAO And judging from the crew's report there, it appears that the corollary experiments people and investigators at the Marshall Space Flight Center called it right, on the M512 facility being used for experiment M551. They felt that, given enough time, the chamber would come down to the desired pressure. Conrad confirmed that was the case, that it took 2 hours to get the chamber evacuated down to the desired level of vacuum. And it is welding at the present time.

CC Skylab, Houston. We're about 30 seconds from LOS. See you again over Vanguard at 18:06.

CDR Okay, Houston, CDR. We got a good weld on. It looks very good from outside the chamber.

CC Roger.

PAO This is Skylab Control. That's all through Goldstone, and we'll be acquiring at the tracking ship Vanguard in about 16 minutes. At 17 hours 50 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-904/1
Time: 13:04 CDT 19:18:04 GMT
6/12/73

PAO This is Skylab Control at 18 hours 5 minutes Greenwich mean time. We're about to acquire at the tracking ship Vanguard. And during this pass over Vanguard be getting a good look at the primary and secondary coolant loops. Both appear to be now functioning normally. The crew is to be advised to remove the LCGs from the circuit on the secondary loop. These have been - liquid cool garments have been draped over the water tank, which received a fair amount of heat and was being used to assist in warming up the secondary loop. And now that that loop appears to be functioning normally, the LCGs are being removed and we'll continue to look at it in that mode of operation for a period of time. There will be some additional tests run over the next day or two to verify the loop, in a variety of modes, particularly those that would be used for an EVA. And we have acquisition of signal now over Vanguard.

CC Skylab, Houston. We're AOS over the Vanguard for 10 minutes. 10 minutes.

CC Joe, we show that you're in mechanical reference still, from the previous rev, and we should have it in optical.

SPT (garble) I'm doing a grating scan right now -

CC Yeah, yeah.

SPT - - so it really doesn't matter and I'm still working (garble) in the limb. I'll switch back this next side. Okay?

CC That's fine. And before you leave the panel on this pass, if possible, I'd like to give you some ATM schedules. Pad mods for Paul coming up.

SPT Go ahead.

CC Okay, if you can get his 1401 pad at 41 for the bright spot, he needs a pointing update, and I've got it here.

SPT I'm with it.

CC Okay. It's roll minus 9300. Right plus 500. Up plus 225.

SPT Roll minus 9300. Right plus 500 and Up plus 225. I did read that right, (garble) write the pad in the opposite sequence.

CC Okay, sorry about that. Yeah, you did read back correctly.

SPT Okay.

CC And if you've still got time, I need to give you some info on Building Block 15 scheduled at the 20036. That's 20036 pass and the 2207 pass.

SPT Go ahead.

SL-II MC-904/2
Time: 13:04 CDT 19:18:04 GMT
6/12/73

CC Okay. 82B is worried about getting a camera jam if the - if determined by the door shutting, and so about 15 seconds prior to terminate, we would lik you to stop (garble)

SPT I'll be right back.

CC Okay, is that clear that it's supposed to be on both of them.

SPT Yeah.

CC And the CDR would probably be pleased to know that we've got a GO for him to remove the LCGs and the LSUs he's got strung out there. We're in good shape now.

CDR Great. Listen C24 Alpha Bravo Charlie is on the VTR and is already dumping, and you won't get 24 Delta until sometime between 20:00 and 21:00. Okay?

CC Roger 24 Delta between 20:00 and 21:00.

CDR That's right. That's the removal of the metals, and it comes 2-1/2 hours after the weld.

CC Okay. And I guess we understand it takes about 2 hours to vent that thing down. Is that correct?

CDR Oh, it took about 2-1/2 hours to outgas it.

CC Okay.

CDR I'll have to see what happens the next time. It may have been like the motor and a few things like that, which may not pick up so much when - now.

CC Okay. And while I'm talking to you here. Joe had asked earlier to get a GO to modify the PLTs M092 run. I've got a concurrence here that 30/40/40 is okay.

CDR Okay. Crip, the pressure that I finally achieved was just about point 1. It never got down to .0?. We did all our welding right around .1. It took 2-1/2 hours getting there. Now, I don't know whether that's the gauge or what. I find it awful hard to believe that a 4 inch opening to a vacuum like that, we weren't right down there right away, but it could be outgassing, but gosh that's a big opening.

CC Okay. Was it - did it go up significantly while you were welding?

CDR Yeah, it crawled up around .2, something like that, then it dropped back down to .1 again. The gauge is operating. There's no doubt about that, but I don't think we got any leakage into the chamber from the spacecraft, not that I can tell. I made sure the hatch was bolted down real good. That's about as best I can do.

SL-II MC-904/3
Time: 13:04 CDT 19:18:04 GMT
6/12/73

CC Okay.
CC Rog, Pete, and for your information, that gauge is inside of a 3 quarter inch opening, so it takes a little bit longer to go down.
CDR Okay. That was a lot (garble) though I still say 2 hours for it to come down to .1 is -
CC Rog. Concur. That sounds excessive.
CDR That sets our vacuum to fill (garble) than what we got up here, and that I doubt very seriously.
CC Rog.
CC Skylab, Houston. We're 1 minute from LOS. We'll see you again over Hawaii at 19:15, 19:15, that is if we don't wash away first.
CDR You say it's raining there a little bit?
CC That's an understatement.
CDR Rained yesterday, too, huh?
CC Affirmative.
SPT Pete wants to know if there's water in the third floor up there yet.
CC We're on the second. It's been coming up this high, I think.
SPT Okay, we'll fix it.
CC I know you guys fix anything, but I don't think you can work it from that long a range.
SPT Listen to this: Rain, Rain go away, come again another day. See if it don't sunshine tomorrow.
CC Okay.
SPT Yeah, see if it don't.
PAO This is Skylab Control. We're now 57 minutes away from our next station, which will be Hawaii. The spacecraft in the 420th revolution of the Earth. And this afternoon the crew among other things, scheduled to perform the M092, M171 experiments. And also continuing with ATM, Apollo telescope mount operations. One correction on that. The M092, M171 scheduled for this morning and that should be completed by now. Primarily ATM S073 and the next run on M551 for the major activities in the flight plan this afternoon. At 18 hours 19 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-905/1
Time: 14:13 CDT 19:19:13 GMT
6/12/73

PAO This is Skylab Control Houston at 19 hours 13 minutes Greenwich mean time. The space station is approaching the Hawaii tracking site, on this the 426th revolution. We're about a minute and a half away from acquisition. And we'll stand by for radio communication between ground and crew.

CC Skylab Houston. We're AOS over Hawaii for about 9 minutes.

SPT Roger Houston. Hey Crip, a little quick confirmation if you could please on this JOP 1 Delta. I went to the coordinates you gave me and it's nothing. I mean there's nothing in HL, but there's nothing in the XUV. I just wanted to verify, first the coordinates, if those are correct. Then I want to verify if they really want me to run this Building Block there. I'm using a roll of minus 9300, up plus 225, right plus 500.

CC Those were coordinates that I read up to you. Let me reverify them with Adam.

PLT Okay, I got to start soon.

CDR And while you're doing that Crip, I got something for you.

CC Go ahead.

CDR Do the M151 for the S073 retract t stowage? The retraction part is assumed that the S073 is at a plus Z SAL, and of course it's not; it's in the minus Z SAL. Do you want me to change those camera angles a little bit to get the retraction and then move them back to the original one to get to stowage?

CC Stand by one.

CDR Thank you.

CC Paul, recorder talk direct, and we do want you to go ahead and run it. We claim we can see something here in XUV from the ground.

PLT Okay, we can't see it onboard, I'm last.

CC Okey doke.

CC And we need a JOP and 1 frame per minute, I believe it is in 4 now please.

CC CDR Houston. Regarding the M151 settings, if you're using the 5 millimeter lense, and the F/10 setting, and you don't think that will work, make whatever adjustments you think are necessary.

CDR Okay, thank you.

CC Skylab Houston. We're about 30 seconds from LOS. We'll see you again over the Vanguard at 19:45, and we will be doing a data recorder dump at Vanguard.

PAO Over the Hawaii tracking station, the flight controllers in Mission Control heard from the guidance

navigat[illegible] and controls systems officer who reported that his systems looked good, looked good over Hawaii. G and S, as he is called, is responsible for monitoring and troubleshooting the Saturn workshop orbital assembly guidance propulsion systems control. And he also has the responsibility for monitoring the command service module systems, when the CSM position is not manned. We'll next acquire the space station in 19 minutes over the Vanguard tracking ship at 19 hours 25 minutes Greenwich mean time. This is Skylab Control.

END OF TAPE

SL-II MC-906/1
Time: 14:43 CDT 19:19:43 GMT
6/12/73

PAO This is Skylab Control, Houston. Nineteen hours 43 minutes Greenwich mean time. One minute from acquisition at the Vanguard tracking ship. We'll stand by for communication with the crew through the Vanguard site.
CC Skylab, Houston. We're AOS over the Vanguard for 9 minutes and we'll be doing a data recorder dump.
CC CDR, Houston. You got a moment to talk about S073 operations?
CDR Sure have.
CC Roger. We apparently didn't get a calibration on the last program that you ran for us and we wanted to verify for this one coming up on the program one Dog that you were going through steps 5 through 7 on page 8-13.
CC And those should be -
SC (garble)
CC Unable to read you due to feedback.
CDR That's 8-13 right?
CC Rog.
CDR Steps what?
CC Steps 5 through 7, well actually, 5 through 8 I guess would be more complete.
PLT Say, Crip, I was going to use the VTR in about 10 minutes, is that all right?
CDR Okay, Crip, I didn't catch that the last time.
CC Rog. You understand the (garble) Pete?
CC PJ, you got a GO on the VTR.
PLT Okay.
CC Skylab, Houston. We're 1 minute from LOS. See you again at Hawaii at 20:52, 20:52.
SC All right.
CC Bye.
PAO The Skylab space station has passed out of range of the Vanguard tracking ship. Out over the South Atlantic Ocean. During this pass and during a part of the pass over Hawaii, previously, the Commander Pete Conrad was conducting an experiment identified as M551, or the metal melting task. The principal investigator for this experiment is Robert Hopps of the Marshall Space Flight Center. Objectives of the experiment are to study the behavior of molten metals in a microgravity condition. Also, to characterize the structures formed in metals melted and that later rapidly solidify in a zero gravity state. And the third objective is to test means of joining metals by an electron beam welding process in zero gravity. The equipment that was used, or that is being used for the melting experiment, consists of an electric motor, a mechanism which drives a disc-shaped

SL-II MC-906/2
Time: 14:43 CDT, 19:19:43 GMT
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specimen at a speed of about 2.5 revolutions per minute. This is done in a container called a metal processing experiment facility. The melting experiment is carried out like a conventional welding test. That is the electron beam traverses along metal plates, and those plates are of varying thickness in this vacuum chamber. And the beam melts the metal to varying depths a long its track. As the beam moves, the melted metal behind it solidifies very rapidly. Motion pictures are taken of this melting process and the film will be returned to us for analysis by the principal investigator and his assistants at the Marshall Space Flight Center. Three different metals are to be used in the melting experiment. One of them is an aluminum alloy, another is a stainless steel type of metal, and another is a nickel, it's identified as thoria dispersed nickel, a nickel-type of metal. At 19 hours 57 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-907/1
Time: 15:50 CDT 19:20:50 GMT
6/12/73

PAO This is Skylab Control at 20 hours 50 minutes Greenwich mean time. About a minute from acquisition at the Hawaii tracking site, on the 421st Skylab revolution. We'll stand by for air to ground.

CC Skylab Houston. We're AOS over Hawaii for 8 minutes.

PLT Roger.

CC And Skylab, we need to update your X3 rate gyro. So if you'd stay off the DAS for a minute we'd appreciate it.

CDR Okay.

PLT Crip, another hang up on S056 in active 1 long. The details are on Channel B.

CC Rog. Was that a filter hang?

PLT I guess. It quit counting, showed an operate light and it's just staying in Filter 1.

CC Thank you.

CC Skylab Houston. The DAS is yours once more.

PLT Thank you.

PLT This XUV is on the tape, and a little coronagraph also.

CC Rog.

CC Paul, just a little reminder on that Building Block 15 you've got coming up at the end of this pass, we did want to shut down 82B 15 seconds prior to sunset. And we're going LOS in about 1 minute. See you again over Vanguard at 21:53, 21:5, correction, 21:23, 21:23.

PAO We've had loss of signal through the Hawaii tracking station. The space station will again be acquired at the Vanguard site in 23 minutes. At that time, we'll have about a 10 minute acquisition period. At 21:00 hours Geenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-908/1
Time: 16:22 CDT 19:21:22 GMT
6/12/73

PAO This is Skylab Control at 21 hours 22 minutes Greenwich mean time. We're about a minute away from acquisition at the Vanguard tracking station. And we will be in communication for about 9-1/2 minutes through Vanguard. We'll stand by for any radio communication between the crew and the Control Center through Vanguard.

CC Skylab Houston. We're AOS over the Vanguard for 9 minutes.

SPT Roger.

CC Skylab Houston, 1 minute to LOS. See you again at Ascension at 21:38, and we'll be doing a data recorder dump at Ascension.

PAO The Skylab space station has moved out of range of the Vanguard tracking ship. We'll be in contact again through the Ascension Island tracking station in about 5 minutes. So, we'll keep up the line for the subsequent air to ground that will be transmitted through Ascension.

END OF TAPE

SL-II MC-909/1
Time: 16:34 CDT 19:21:34 GMT
6/12/73

CC Skylab, Houston. AOS Ascension 7 minutes.
CDR Roger.
CDR Houston, CDR.
CC Go, CDR.
CDR On So73, when I put those rods in, they were extremely cold and as you would expect, they collected a good deal of moisture on them and I wiped them down with a - with just a (garble) Is there anything down there special that those guys want done to those rods before I stow the thing, later on?
CC We'll get corollary to check that, Pete. While I'm talking to you, on your M512 facility, since that filament chamber was closed and set off separately, it should be basically maintained at vacuum, but we don't anticipate any problem when you go back up to run your next procedure.
CDR Surprise. I think there's a leak in it.
CC Oh, oh.
CDR Because it was at a[illegible]ric when I started again. That's probably our problem.
CC Okay.
CDR Now, let me tell you something else that I didn't have a chance to tell you today. I can't account for this, cause I know that it was fit about 10 times, but the mirror over the electron gun would not fit today because the electron gun must have shifted during launch. That's the only thing I could think of. Now is there any way that thing can move around in there, or move on its adjustment. Because the mirror, I got the mirror on. You can see through it okay by just using one screw, but it lacks fitting by a good eighth of an inch to the other screw, because it interfers with the electron gun. And the only thing I can conclude is that the gun shifted during launch. However the pointing was relatively good, which leads me to conclude that it was there in the first place, but I know it was fit checked.
CC That's affirm. It was fit checked and you're saying that it looks like the electron beam gun has shifted? You can only get the mirror on with one screw? And I take it from what you said, you think you can operate it like that.
CDR Oh, I've welded a plate okay. It's all right. But I think it got moved. That's the only thing I can account for it by. We took photographs on it.
CC Copy.

END OF TAPE

SL-II MC-910/1
Time: 16:41 CDT 19:21:41 GMT
6/12/73

CC CDR Houston. I'd like to clarify one thing. It was the filament chamber you're saying it leaked back up, and not the work chamber.

CDR Right, the filament chamber. When I, when I opened the valve it was at after I pulled the - I got the second specimen in there now. And as you surmised I figured well when I open up the filament chamber I'll be in business, then I can go right at it. And low and behold when I opened it up, chamber being at zero, work chamber being at zero according to the work tape brigade the filament showed atmospheric again. And it is slowly bleeding down, it's down to about 2 right now.

CDR .2

CC Roger. I'm sure we'd be interested in hearing about how long you think it has taken it to leak down.

CDR Well, let me go look at it. I opened it about 15 minutes ago. Let me show you where it is.

CC Okay, I don't think it's worth a special trip. But get all that information for time line purposes.

CDR Well, we like zinking up and down in the spacecraft.

CDR Say Crip, it's .5 right now. It's been about 20 minutes. And I might be a little suspicious of the gauge.

CC Okay, .5 after about 20 minutes. And for your information wiping down and stowing of the rods is okay. We're 1 minute from LOS, and we'll have you again at Guam at 22:23, 22:23.

CDR They weren't kidding about that stuff getting cold, I'll tell you. I had my gloves on when I started to bring them in and I thought that's kind of foolish, so I got to make a second run and man, they were really cold the further I went.

CC Rog. Understand the gloves are recommended?

CDR Yes sir, they are a necessity, and I had them on to start with, it wasn't bad until I got about 2 rods in and how cold it was going to get because the near rods weren't so cold, but the far rods were extremely cold.

CC Roger, thank you.

CC Skylab, we have sent the flight plan up. We had some problems with transmission. Like you to check and see if it looks okay, and tell us on the next pass whether we need to send it again.

SL-II MC-910/2
Time: 16:41 CDT 19:21:41 GMT
6/12/73

CDR Okay.

PAO We have had loss of signal with the space station through the Ascension site. Part of the conversation that was on this current air to ground pass had to do with that M551 metal melting experiment. And you heard the Commander say he thought the electron gun had shifted approximately an 8th of an inch. He also pointed out that it operated okay. And that the electron - but he believed that electron beam gun did indeed shift or move. The flight controllers here at the Control Center are discussing this anomoly. And will pass on to the crew at the next station, which is Guam, procedures which they feel will alleviate the situation. At 21 hours 47 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-911/1
Time: 17:21 CDT 19:22:21 GMT
6/12/73

PAO This is Skylab Control at 22 hours 22 minutes Greenwich mean time. The space station is about a half minute away from acquisition at the Guam tracking site. And we'll have a very short pass over Guam, some 4 minutes plus. We'll stand by for air to ground.

CC Skylab Houston. We're AOS over Guam for 3 minutes.

PLT Roger.

PLT Hey Crip, will you finish grounding the second wheel on M551?

CC Roger. Second wheel on 551. Did it take you very much longer to get down to .1?

CDR I would have got there a lot faster if the time (garble). There must be a leak in the filament chamber.

CDR I'll check it again very carefully this time. I was looking at the checklist to make sure that I had pressurized it with the chamber open, and I did. I went by checklist.

CC Roger. There is some speculation here that even when your chamber reads zero that, you know, there is still a little bit of pressure there, and if you open it up real soon, you may still be pressurizing the chamber slightly, the filament chamber rather.

CDR Okay well, next time I'll let it sit - I'll let the work chamber sit in a vacuum for a while before I do the other thing. Then I'll I open it up and verify it.

CC Sounds good.

CDR But, I don't get much of a vacuum. I'm lucky to get under .1, .1 is about it no matter how long you let it set.

CC Roger.

CDR It's really making me old quick.

CC Rog.

CC Skylab Houston. We're 1 minute from LOS. See you again over the Vanguard at 23:00, 23:00.

CDR Okay.

PAO The conversation over the Guam tracking site was with the Commander, who was a little ahead of his time line on the schedule for the Skylab space station today. He was processing his M551 metal melting experiment. He will undertake that experiment 3 times today. He's already

SL-II MC-911/2
Time: 17:21 CDT 19:22:21 GMT
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made one run. Processing the second run and a third run will be made later in the evening. On the last run he will use a material identified as tantalum, which is a lustrous platinum gray hard metal with a high melting point. It's used in making corrosive resistent chemical apparatus and equipment. That replaces a metal which was identified earlier as nickel. We anticipate having a change of shift briefing at approximately 6:30 p.m. predicated on the weather, and whether all of the flight controllers can indeed make it in to the Mission Control Center on time for a proper handover. Tentatively we have scheduled the off going Flight Director, Milton Windler to appear and with him will be Dr. Royce Hawkins, who will also appear and respond to any questions relating to crew health and crew condition. At 22 hours 30 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-912/1
Time: 17:59 CDT 19:22:59 GMT
6/12/73

PAO This is Skylab Control at 23:00 hours Greenwich mean time. We're about a minute away from acquisition at the Guam site. We'll hold the line up for the communication with the crew through the Vanguard.

CC Skylab, Houston. AOS 10 minutes.

PLT Roger, Bill.

CC Skylab. LOS in 1 minute. Ascension 23:13. Also, also we replaced the flight plan and it should be in the teleprinter at this time.

PLT Okay.

PLT Hello. Houston, are you still there?

CC Go, Skylab.

PLT There ain't no flight plan here, Bill. All we got's general evening questions.

CC Copy.

PAO We've had loss of signal at the Vanguard tracking site. And we'll keep the line up because we expect to pick up the Skylab space station again in about a minute and a half over the Ascension tracking station.

END OF TAPE

SL-II MC-913/1
Time: 18:12 CDT 19:23:14 GMT
6/12/73

CC Skylab, Houston. AOS 11 minutes.
SPT Roger, Houston. Were you sending up another flight plan because the plan has changed or because you thought the first one was garbled.
CC We thought the first one was garbled.
SPT No, it was okay.
CC Copy.
SPT Hey Houston, Skylab. Are you there?
CC Go Skylab.
SPT I can give you some evening questions if you're ready.
CC We're standing by.
SPT Okay. Question 1, no comment. It's just true. That's all. Question number 2, we don't think so. The method being used for ergometer restraint now is nothing. That is no external devices at all. Just the handle bars and the center strip, and (garble) you put your head on the ceiling. Everybody uses the same handle bar setting, which is 5 and the seat setting, we're using 77. It really isn't very important because you don't use the seat. Ideally you can design some handlebars that would allow you to take the stress in the comfortable position, where it didn't exert a pitch torque on your body. But that's dressing and I don't think that they need anything new. What they need to do is train a little bit on a horizontal bike.
CC Joe, do you think it's worth the effort of a simple extension of the handlebars?
SPT That'd be nice.
CC Copy.
SPT Question number 3, the SPTs opinions, I'll have the CDR and PLT look these over, and if they differ from me, they can put it on Channel B. A - I'm sketching, the corona, the other two aren't, and it's been only moderately helpful so far, because the - there's not a lot of detail on it, and we can tell that the corona's changing by going back and reviewing our sketches but the information isn't terribly useful to us. I don't understand part B, rolling of white light coronagraph to identfy faint figures. No we haven't found that helpful. Haven't tried it, H-Alpha image does appear to move. It moves quite a bit as sunset approaches and it lasts a good 10 to 15 seconds. And I expect that your rationale for that is correct.
CC Okay. Is there any difference between the two H-Alphas?
SPT I think that H-Alpha 2 appears to have finer resolution, but that may be just because you can't

get as much image magnification with it. There are no major differences. We've seen no pointing jitter other than the electronic jitter that we described. That's attributal to crew activities. The ATM appears to be pretty stable. Haven't seen any associated with door opening and closing either. That was Echo. Foxtrot, not off hand, we'll think about it. The JOP summary sheet for Building Blocks going pretty well. Can 55 detector 1 and 3 be maximized on network battery. Of course it maximizes beautifully in plage. On network battery you might get a factor of 2 out of it, if you're lucky. It's a little sloppy and a little hard to do. Hotel, the X-Ray image is not performing as hoped. It's been completely worthless up to now. We've never seen anything in it. Hopefully, if we get a good big X-Ray flare, we will see someth'ng in it. Then we can make a meaningful comment.

CC Okay, and we're going LOS here in approximately 20 seconds. Guam at 23:57.

SPT Okay, and the last part of that question, keeping track of S054 frames does require an extra 30 seconds to a minute, but it's okay. It can be done. And we'll answer question 4 another time.

CC Thank you, Joe.

PAO We have had loss of signal at the Ascension tracking station, and we'll come up again in 32 minutes over the Guam site. At 23 hours 25 minutes Greenwich mean time, this Skylab Control.

END OF TAPE

SL-II MC-914/1
Time: 18:27 CDT 19:23:27 GMT
6/12/73

PAO This is Skylab Control at 23 hours 27 minutes Greenwich mean time, with an advisory to the press. A change of shift briefing is scheduled to get underway shortly in the News Center Briefing Room, with Milton Windler, the off going Flight Director, and associates participating. At 23 hours 27 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-915/1
Time: 19:12 CDT 20:00:12 GMT
6/12/73

PAO This is Skylab Control Houston, starting the 164th day of the year. In fact, we're 13 minutes into that day. During the change of shift press conference, we had about 5 minutes and 14 seconds of air to ground. And we will play that back to you now.

CC Skylab Houston. AOS 11 minutes. And Skylab, we're sending a pointing load up on this pass at Guam. And it's on unattended ops.

PLT (garble) and copy that Bill.

CDR Houston are you ready for the evening status report?

CC That's affirm, go ahead.

PLT The CDR had a standard day of everything on the menu plus two cans of fattening butter cookies. The SPT, normal all the way. The PLT ate everything except for lunch or dinner item 75 bread. Delta water is minus 1, optional salt a whopping 1.5. Photo log as follows: 16 millimeter S073 retract M151, Charlie India 25, 70, Mike Tango 11; S073 stow M151, the same draft for the film is all the same. M551, Charlie India 05, 18, Charlie India 01; 35 milimeter, Charlie India 28, 15, Charlie India 29, and 53; the Hasselblad Charlie X-ray 06, by our count as 97 frames exposed. Are you still there Houston?

CC We're still copying. Go.

PLT Okay, I didn't want to say all that stuff for nothing that's all. Under EREP 190 Alfa. The number 1 is 7226, number 2 is 6563, and number 3 is 7438, number 4 is 7433, number 5 is 0977, number 6 is 8293.

CC Copy.

PLT We are a foots out here on the S073 stuff which has items supply Charlie India 25. We got on end of film light on a time frame, however, it's still full of film. We don't quite know what's going on. We marked the film and the marks gone and that indicates that it is still moving. Are you ready for the Gear A configuaration?

CC That's affirmative.

PLT Okay. Al is 02, Charlie India 05, 18, Chalie India 01; Alfa 2 is 03, Charlie India 06, 62, Charlie India 03; Alfa 3, 06, Charlie India 08, 18, Charlie India 07; Alfa 4 05, Charlie India 25, 50, Mike Tango 11.

CC We copy.

PLT There were no flight plan deviations, any stowage items changes have been put on tape, and no inoperable equipment that you don't already know about.

CC We copy that.

CC PLT Houston.

PLT Go ahead.

SL-II MC-913/2
Time: 19:12 CDT 20:00:12 GMT
6/12/73

CC Apparently we have lost the star on the tracker and the new acquisition angles all are- -
PLT Hold it, hold it. I've got your (garble)
CC Copy.
PLT Okay, go ahead.
CC Inner gimbal plus 0198, outer gimbal plus 1950.
PLT Got it thank you.
CC Skylab, LOS in 1 minute. Vanguard at 00:37, and we will be dumping the tape recorder at that point.
PLT Roger.
PAO That completes the tape recorded information that came down from the space station through Guam. We will again pick up the Skylab station at the Vanguard tracking site in about 18 more minutes. At 19 minutes 3 seconds Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-916/1
Time: 19:36 CDT 20:00:36 GMT
6/12/73

PAO This is Skylab Control Houston, 36 minutes into the new day. The Skylab space station is about 3/4 of a minute away from acquisition at the Vanguard site. At this time the crew is - all three of the crew members are involved in presleep activities. About the only thing that's going to transpire later tonight will be a little ATM viewing. And another run at the M555 metals experiment. And that will be conducted by Pete Conrad. We'll stand by for air to ground.

CC Skylab, Houston. AOS 10 minutes.

CDR Rog, Houston. Say, I had a little problem with M551 I'd like to discuss with you.

CC We're standing by.

CDR Okay, on welding on the third plate, when I got to the cross and I was welding, was doing the pooling, at the end of the amount of time after the electronic beam got to ON I hit the READY reset switch to turn it off and it would not turn off. So I reached up and turned off the (garble) beam power. And that shut it off, but I can hear something clicking away back by the battery, and the 5 KVA was still on for some reason. And the only way I could get it to shut off was to pull theMAIN BAT circuit breaker. Then I went through the malf procedures and there's absolutely zero in there, so I went back to my own imagination and plugged the BAT circuit breaker back in, and sure enough the 5 KVA was still on, so I turned on the filament power and that turned it off, but along about that time the electron beam gun went off again all by itself, so I decided relays were hung up or something. So I pulled the filament BAT circuit breaker this time, and reset it and that reset whatever it was that was wrong in there and that's where we stand right now. I finished the third specimen, but I thought I'd pass that along. We might like to hear some words about it. We were still considering trying to do the M552 and that requires the gun. And I don't know whether I got everything reset or not. But at least it's in a condition where we can give it a try again.

CC We copy that, Pete, and we'll get back to you before 552.

CDR Thank you. Well that's something that they said they weren't going to schedule, if we could do it on our own, we would. We were planning on giving it a whirl tonight, maybe.

CC Okay, well that's what I -

CC Hello Skylab, SPT, Houston. If you're near a squawk box, Joe, could you give us a call, please?

SPT Go ahead.

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Time: 19:35 CDT 20:00:36 GMT
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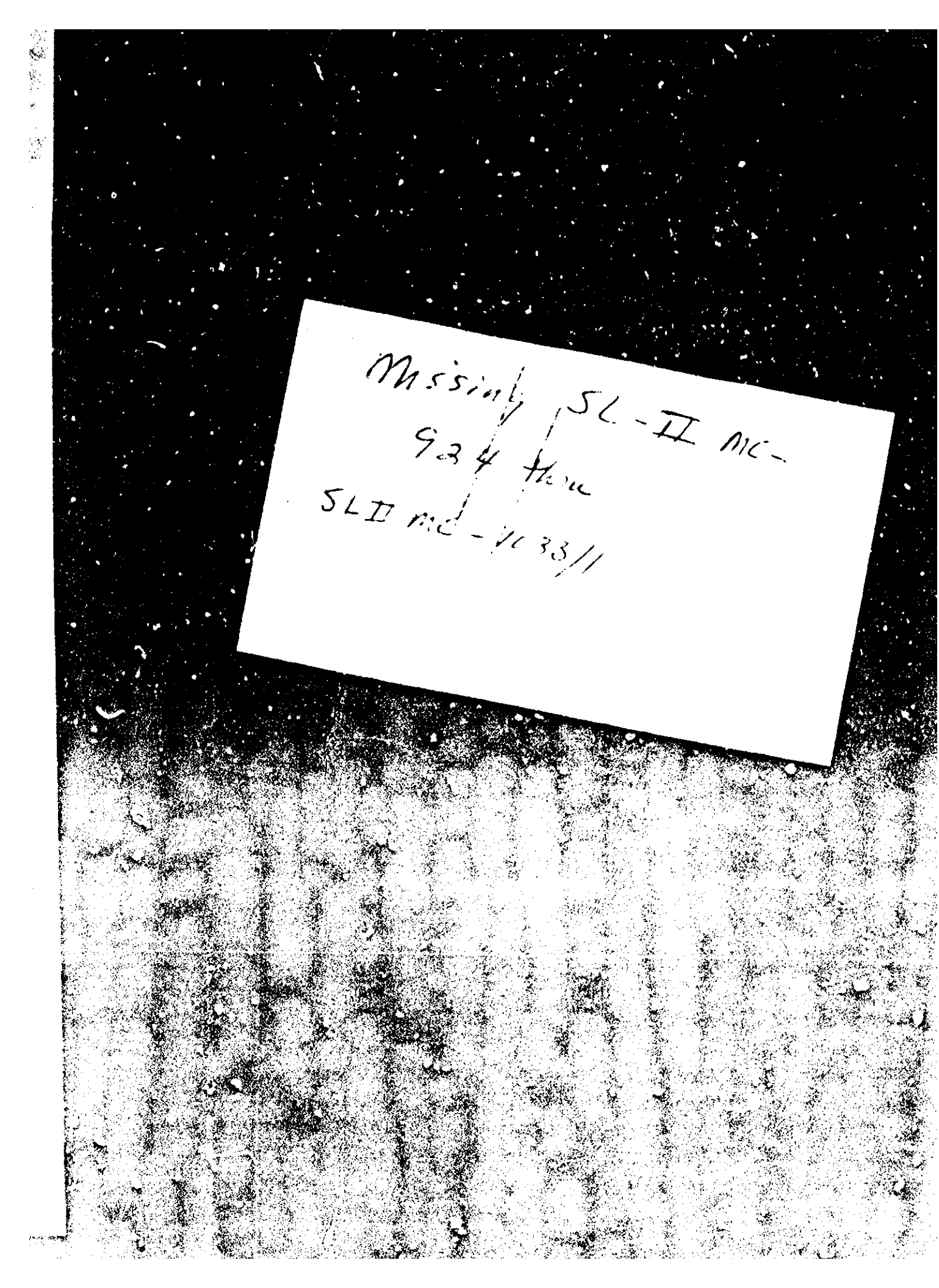
CC Is that Joe.
SPT Yeah.
CC I just wanted to follow up on a couple of those questions you answered the last time for us Joe. You mentioned that the H Alpha image appears to move as you approach sunset approximately 10 or 15 seconds.

END OF TAPE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934 Item
SL II MC-1033/1

CC Joe?
SPT Yeah.
CC Just wanted to follow up on a couple of those questions you answered last time for us, Joe. You mentioned that the H-Alpha image appeared to move as you approached Sunset approximately 10 or 15 seconds early. That's a good number for us. We would like a little precision on it if it's possible, the next couple of times you're on the panel, if it's convenient for you to remember and just note as accurately as you can, when the image first begins to move. It would help us in our planning, because apparently we will want to make sure we do cut off all observations before that does begin to happen. And on question B, which was a little puzzling, we tried to abbreviate too much, apparently. We had noticed that faint features in the corona, like a very faint streamer, or something embedded in the coronal brightness could be seen more clearly when we rolled the TV, and we were finding that very helpful here on the ground, and were wondering if you also found it useful in identifying these streamers in the spacecraft? Over.
SPT Hi, Owen, I didn't recognize you at first.
CC Good to talk to you, Joe.
SPT Hey, in doing this work with the corona, are you using stuff we've sent down or the training films?
CC Oh no, we're using all stuff you've sent down, and it looks very interesting indeed. All the PIs back there are very enthusiastic and pleased with the way it looks.
SPT Okay, I'll have to look at it - we - I have not specifically noticed anything being enhanced by rolling, but it may be something we just missed. Yes, we'll start timing that for you, on H-Alpha. I suspect it's fewer than 15 seconds and we'll try and get you an accurate number.
CC Okay, thanks a lot, Joe, and they are all very enthusiastic about the pictures and the white light, and the XUV as well. Even though the XUV may be a little faint, it's very helpful down here with those integrated pictures, because we can pull it out frame by frame and look at it.
SC (garbled) - the X-ray image is really the disappointment, I guess, of the displays. And as far as the JOPS and building blocks go, Owen, I think the format is fine. I know you'll want to make detail changes, but I think all the people that put those together deserve a lot of credit.
CC Thanks, Joe. Also, your answer on the X-ray image was exactly what we were looking for. We're aware that at the moment you probably can see very little with the solar activity as low as it is. However, we do still feel, based upon its performance and the performance of the PMEC, that it's doing just about what it should do. And whenever the activity

does increase, or a flare, or plage brightens up, you should then be able to see it on that X-ray image. So you shouldn't get too discouraged just because you don't see it now. When the activity picks up we think you should.

SPT We're waiting and waiting for that flare.
CC That's rog.
SPT Say, Owen?
CC Go.
PLT Owen, baby.
CC Hello, Paul.
PLT You there?
CC Go ahead.
PLT Hey, I thought of something I put on tape today, some TV of the coronagraph, and I think that maybe what you're seeing in there, you know, our occulting disc is a little off set. And I noticed that you can record some features in the corona to be enhanced as you offset the disc such that you get the best picture of the first - a little closer to the edge of the disc. And you'll see things that you didn't see otherwise, it's kind of like taking the H-Alpha picture off the edge. - automatic gain allows you to see the streamers in that. And - thebig changes in the roll, maybe that's what you're seeing instead of actually being able to see them better when they're moving, maybe it's because different features are moving closer to the edge of the disc.
CC Well, it is true that near that 7 to 8 o'clock position, where the picture is brighter, you will be able to see things a little closer to the limb of the Sun, sort of like you used to do with P025 when you had it out the front of the airlock. You know you can rotate that occulting disc near the limb and see a little bit more stuff near by. But, that would be about the only thing I could think of that would produce the thing you're talking about, Paul.
CDR Hey, Owen, this is Pete.
CC Go ahead, Pete.
CDR I got one suggestion for the JOPs summary sheet. Especially S056 and 54. I put in there on each mode now, the number of frames that are going to be taken, because with the 56 acting up and 54 with no READY operate light, you do have to count the frames. It's not too bad counting frames, but there's enough programs in there that - well we've written on the instrument panel there, but that's a little sloppy. You might put the number of frames that are going to be taken in each set in there, just so it's handy for you.
CC Okay, Pete. Thank you. I think if you'll look on the building block in the upper left-hand corner, I believe, that frame number is in there, isn't it?

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CDR No, I don't think it is on - like this active one log, 15 pictures I don't remember that being in there.

CC Okay, I'll check them all. We should have them in the upper left-hand corner of each block, and appreciate the suggestion, Pete.

CC And Skylab, we're going LOS in 45 seconds, we'll have you at Canary at 58.

PAO In the vernacular of the Mission Control Center, the spacecraft has gone over the hill. Next acquisition site will be the Canary Islands tracking station in 9 minutes. At 48 minutes into the new day, this is Greenwich mean time, Skylab Control.

END OF TAPE

SL-II MC-918/1
Time: 19:57 CDT 20:00:57 GMT
6/12/73

FAO Skylab Control Houston, 50 seconds away from acquisition at the Canary site. We'll stand by for the air to ground.

CC Skylab Houston. AOS 10 minutes.

SPT Go on Houston.

CC We're standing by.

CC Skylab, we have one or two news items here, if it won't interfere with your activities.

SPT Good, go ahead.

CC The first thing is another satellite has been launched, the Titan 3C rocket by the Air Force at 2:15 this morning. Thought to be a missile early warning device. power shortage is to continue. A growing number of service stations are shortening their operation, as summer travel increases. Power, electric power is being curtailed, especially along the east coast, which apparently has a heat wave. It's causing a drain from air conditioning operation. All the federal offices in Washington DC began a partial brown out today to help fight the power shortage.

SPT Hope they don't brown you guys out.

CC And we've always got a plan out back we can fire up.

SPT Okay. You can always get onto your ergometer Bill.

CC Thank you.

CC And it says that the devaluation of the US dollar is causing increases in the price of foreign made imports. Any thing from food stuff to automobiles.

SPT Did we devalue again, how much?

CC No, we haven't officially devalued. But, apparently the price on the money markets is going down.

SPT Okay.

CC And on sports, most of the major leagues had a day off. The San Francisco Giants won 2 to 1 over the Mets, increased their lead over Los Angeles to 1-1/2 games. Los Angeles is in second place and Houston is in third with 5 games behind. Astros are playing the Cubs tonight in the dome, but no score yet.

CDR Oh boy.

CC Jack Nickalaus leads the PGA golfers in irons this year with 181,000 dollars. The really big news, which Crip may have appraised you on is the rain in Houston today. Earlier today they had up to 7 inches in lots of spots and all the low places were under water.

SPT How are the bay area suburbs doing?

CC I was afraid you would ask that.

SL-II MC-919/1
Time: 20:04 CDT 20:01:04 GMT
7/12/73

CC And for the local area flooding, that's been restricted just to streets. No houses have been involved, and such.
CDR Okay, that's good.
CC Yeah, that's not quite true in Friendswood. (garble) been blocked about a mile from his house, which has been overrun. And there are quite a few others up that way. We've - the creek that went past our back increased from about 10 feet and went to about 300 yards, as a matter of fact. We're still fortunately dry.
SPT That's good. We are too.
CC The director is spending the evening in Nassau Bay Motel. He lives in Friendswood.
SPT (laughter) Oh dear.
CC And we're going to sleep configuration with the GYKOS. 1 and 2 is on. Three is backup.
CDR Roger.
CC There's also a message here that the S073 PI would like to convey his thanks for the outstanding job the crew did on the S073 today. The data tapes looked excellent, and these were corollated with scans from Pioneer 2, and scans from MAVI in Hawaii.
SPT CDR says he enjoyed it.
CC Copy.
CDR Say, Bill you still there?
CC We're still here Pete, go.
CDR Tell the M551 guys or the M512, however you want to look at it. We've determined what happened. It appears that the filament beam gun has moved forward. Not left or right, but it moved forward. Plus X for some reason, just a little bit, like maybe an eighth of an inch. It must be held in there by a rig or something like that.
CC We copy that, Pete.
CC PLT, Houston.
PLT Go ahead.
CC Film transporter 6 has about 18 percent film left and they'd like for you to shoot this up at - on any subject, any speed and tomorrows film log will reflect this being used. And we'll be LOS in approximately one minute here.
PLT Okay, real fine.
CC And be advised, we won't be making Guam this time. The Honeysuckle is the next one at 1:47. There will be a medical conference there. Paul the EVA teleprinter pad should be on board at this time.
PLT Okay.

SL-II MC-919/2
Time: 20:04 CDT 20:01:04 GMT
6/12/73

PAO This revolution which is the 424th rev took the spacecraft over the Canary Island tracking site and the Madrid site. We've passed beyond communication out of the Madrid site. Our next station will be the Honeysuckle station in 26 minutes. At 1 hour 12 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-920/1
Time: 20:37 CDT 20:01:37 GMT
6/12/73

PAO This is Skylab Control, 1 hour 38 minutes Greenwich mean time. The Skylab space station is just brushing the edge of the Guam tracking site. We may have some telemetry. We doubt whether we will have any voice communication, but we'll bring the line up and stand by.

PAO During this period, when we have a small amount of Guam telemetry, we might speak about tomorrow's EREP pass, which is identified as pass number 10. It is a daylight pass, starting, an early daylight pass, starting over the Pacific Ocean well off the coast of Oregon. The actual data which will be coming down from the spacecraft on that Earth Resources pass, will begin south of Helena, Montana. The pass will continue on over the Rocky Mountains, and end approximately 350 miles off Rio de Janero in Brazil. The length of the pass is approximately 7400 statute miles. EREP pass number 10 is the next to last EREP experiment, or EREP pass for this Skylab mission. We'll keep the line up. We're approximately 5 minutes from acquisition at the Honeysuckle tracking station. And at that time, we will have the daily medical conference. So we would assume there will be very little air to ground that will come from Skylab during this the 424th rev.

END OF TAPE

SL-II MC-921/1
Time: 20:45 CDT 20:01:45 GMT
6/12/73

CC Skylab, if you read, we'll be at Canary at 02:36.

PLT Okay.

PAO The Skylab space station has moved out of the range of the Honeysuckle tracking station. Very little communication during this pass over Honeysuckle. Due primarily to the daily medical conference that was held over the site. We'll have a report from the doctor a little later and read it to you. We expect to reacquire the space station in about 3/4 of an hour at the Canary Island tracking site. So, we'll take the line down at 1 hour 56 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-922/1
Time: 21:83 CDT 20:02:33 GMT
6/12/73

PAO This is Skylab Control Houston, at 2 hours 33 minutes Greenwich mean time. We have received the daily medical bulletin as gathered together for us by Dr. Charles E. Ross. Dr. Ross says the Skylab crew remains in good physical condition following a busy day working experiments. In the area of medical experiments the Commander had a successful lower body negative pressure cardiovascular and exercise response test. Dr. Ross also says no medical problems have been identified, which could affect the mission time line. We've just had an indication through the medium of the warbler that we're about to be - about to acquire the Skylab space station at the Canary Island tracking site. We'll be in contact with the space station through the Canaries and Madrid for roughly 15 minutes. We expect at this time, during this contact, during this period of contact that the ground will give the crew a goodnight, thus ending their 19th day. Flight Director Don Puddy just identified that fact, that this is the last pass before we do indeed put the crew to bed for this the 19th day. So we'll stand by for the air to ground through the Canaries and Madrid.

CC Skylab, Houston. AOS 13 minutes.

SPT Roger, Houston.

SPT We're pretty busy right now. The CDR is trying to break the PLTs world record of 13 bounces around the ring lockers.

PLT With the blue ball.

CC Be sure it's only the world's record that you break.

PLT Don't ask for the rules. It's extremely complicated, involves orbital mechanics and everything.

CC How many Gs do you figure you work up running around those things?

SPT Oh, not more than a (garble) on the outside.

END OF TAPE

SL-II MC-923/1
Time: 21:41 CDT 20:02:41 GMT
6/12/73

CC And just for the record tonight's ball scores came in, the Astros nothing, the Chicago Cubs 3.
CDR Run, run quick.
SPT Houston, Houston, where are you?
CC We're standing by.
SPT We didn't hear the scores. You cut out.
CC Oh, the Astros nothing, Chicago Cubs 3. That's the final in the dome tonight.
SPT Well, I'll bet ole (garble) Jenkins did it again.
C Stand by Hap and I'll find out who it was.
SPT I always hate it when those two teams played because I'm for both.
CC Hey, we've been watching some beautiful TV, that been coming down recently from you people.
SPT I'm glad it came out good.
CC It's very good.
SPT What is it of?
CC Oh, M171, M092, that sort of thing. I'll tell you, some of those pictures are worth a thousand words.
SPT Great. Our really favorite one of all is the XUV monitor though.
CC There are also people who appreciate that.
SPT Oh yeah.
CC CDR Houston.
CDR Yeah, go ahead.
CC Question here on the 551. After you cycled the filament battery circuit breaker, did you go to ready reset to get the 5KVA to turn off.
CDR No sir, cycling the breakers did it by itself.
CC We copy.
CDR Say Bill on that EVA plan, are you still there?
CC Yeah, we're still here.
CDR I'd like a little more time tonight before we used some of the equipment and I would like, you know on the first EVA like the tethers, the long tethers that we used to hold the pole and so forth. I would like maybe another hour to iron that gear out, make sure it's all in good order.
CC Copy that.
CDR Other wise it looks okay. I don't think doff our system this week on the EVA gear, that's a waste of time.
CC Okay.
CDR You can make it almost all the way to the wardroom with your PCU and umbilical on any how, it's not (garble)

can't make it all the way.
CDR Yeah, time is open straight at that point, as a matter of fact, we almost in daylight the full time I would imagine. That's number 1 and number 2, that's all well out there anv how. Daylight except for (garble) one of the film.
CC Hey, Rusty wants to know if you have an answer to the first question on the EVA?
CDR Oh, about the surf pumps?
CC That's affirm.
CDR I'm going to have to look that up, and get it to you in the morning. I'll have to go look at the checklist that stuff none of us can remember.
CC Okay.
SPT I'm pretty sure what happened Pete is that the LSUs were attached to the PCUs, but the PCUs weren't attached to us yet.
CC Copy.
CDR That's right. Joe's right. And as I remember I was talking about how cold I was, how nice the flow was. And Joe said, well I'm not getting any.
CC Okay, we copy. And we're going LOS for the night in about 20 seconds. And we'll see you tomorrow.
CDR Okay, it may have been the other way around. I forget who wasn't flowing, but when we put them on it was that way.
CC We copy.
CDR We're just going into daylight and the moon is just there. That's quite a pretty site.
CC You're right. We can only dream about it down here.
PAO Flight Director Don Puddy, polled the flight controllers in the Mission Control Center on a final systems check. And the response that he got from each of them just prior to bidding the crew good night was that the systems looked good. And so we bid the Skylab crew good night on this 19th mission day. At 2 hours 50 minutes Green wich mean time on day 164, this is Skylab Control.

END OF TAPE